

Differentiation: Lessons

Examining how master teachers weave differentiation into their daily practice can help reluctant teachers take the plunge.

Jennifer Carolan and Abigail Guinn

Diversity is a gold mine. It offers all members of a diverse group multiple ideas, perspectives, and solutions to problems. Teachers can nurture this diversity early on by maximizing the potential of each student in their classrooms, including students who come to the class with defined disabilities. And practicing differentiated instruction, matching teaching to the needs of each learner, is an ideal way to help diversity thrive.

As school districts embrace differentiated instruction and strive to increase teachers' comfort level with it, a close study of the daily practice of expert teachers is a key—though under-used—resource.

Barriers to Differentiation

Many teachers hesitate to weave differentiated practices into their classroom methods because they believe that they lack time, professional development resources, and administrative support (Hootstein, 1998). Everest (2003) contends that some see differentiation as another bureaucratic mandate heaped onto their already burgeoning workloads. These barriers are real; if not addressed, they threaten to turn differentiation into the next education fad.

Many educators mistakenly think that differentiation means teaching everything in at least three different ways—that a differentiated classroom functions like a dinner buffet. This is not differentiation, nor is it practical. A classroom in which teaching is tailored to the individual needs of students does look different from a one-size-fits-all classroom, but often these differences are less dramatic than teachers believe. For example, a teacher who conjures up a metaphor matched to a student's cognitive ability and personal interests is differentiating, as is a teacher who pushes the thinking of an advanced student during a whole-class discussion.

Many expert teachers were master differentiators long before the term was popularized. Through years of tinkering, they have learned which strategies to use and when. By turning to the classrooms of these expert teachers, we can observe

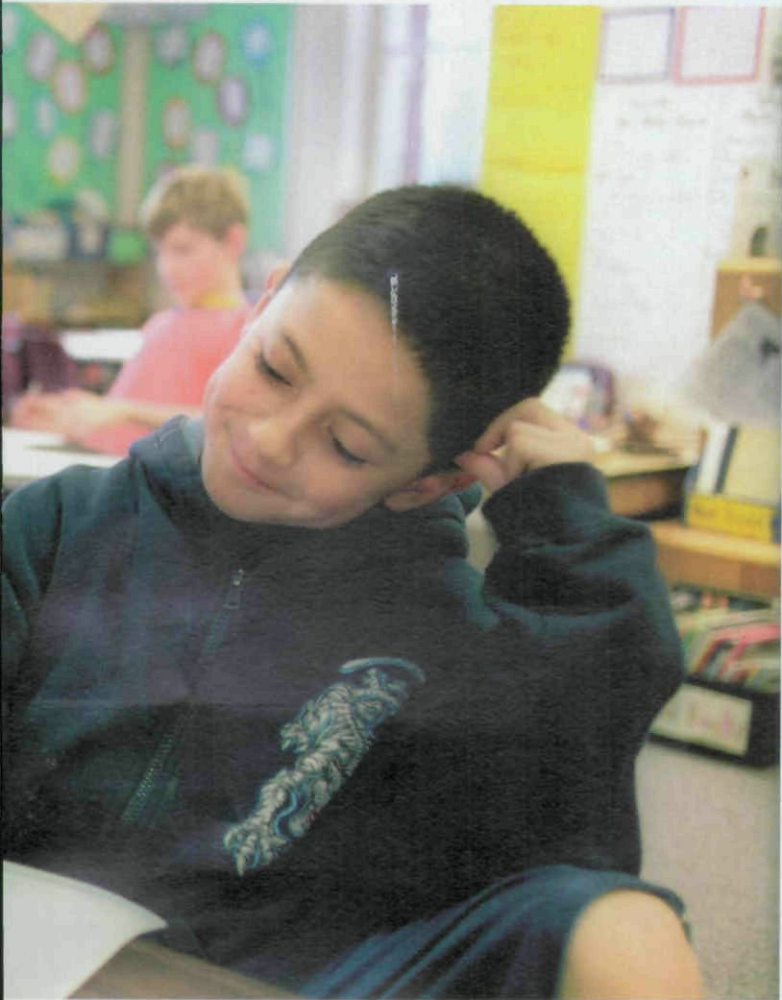


how successful differentiators overcome common obstacles and seamlessly weave differentiation strategies into their practice while staying true to their personal style.

Observing the Experts

We set out to take a close look at how five outstanding teachers taught a broad range of learners in their classrooms. From fall 2005 to spring 2006, we observed the teachers' classes in two middle schools in a high-performing district near San Francisco, California. Students with disabilities ranging from ADHD to severe hearing loss and physical disabilities were mainstreamed into regular education classrooms in these schools. Through more than 35 hours of interviews and classroom observations, we probed these teachers' attitudes toward differentiating instruction. We focused on their overarching beliefs, their daily routines, and their subtle strategies.

from Master Teachers



At the center of all five teachers' classrooms, we encountered strategies that addressed individual needs. Four common characteristics surfaced:

- Offering personalized scaffolding.
- Using flexible means to reach defined ends.
- Mining subject-area expertise.
- Creating a caring classroom in which differences are seen as assets.

The following examples illustrate these characteristics in action.

Offering Personalized Scaffolding

Scaffolds are temporary supports that help a learner bridge the gap between what he or she can do and what he or she needs to do to succeed at a learning task (Graves & Braaten, 1996). To guarantee that each student internalized complex

concepts, these teachers consistently provided scaffolding, often inventing supports on the spot as a student faltered. They drew on a rich mental database of examples, metaphors, and enrichment ideas. Personalized supports often took the form of tailored examples; all five teachers worked hard to understand their students. They built ample one-on-one time into the class structure.

In Mrs. L's poetry unit, learning goals included an understanding of the terms *metaphor*, *alliteration*, *simile*, and *rhythm*. On a day we observed her 8th graders working individually on analyzing and writing poems, Mrs. L checked in with every student. She helped a student struggling to understand an extended metaphor by working through the Langston Hughes poem "Mother to Son." For another student struggling with rhythm, she pointed out poems across various genres with different rhythmic patterns. She asked an advanced learner, "How might a poem retain its literary integrity when translated into another language?"

Using Flexible Means to Reach Defined Ends

Regardless of their discipline, expert teachers first ensured that clear learning goals guided their curricular decision making. Then they inserted related skills and specific content knowledge through a backward design process (see McTighe & Wiggins, 1998). After they established curricular direction and content, these teachers offered multiple ways for students to demonstrate what they knew. Designing and facilitating multiple paths to reach defined learning goals is one of the hallmarks of successful differentiation.

"Multiple paths" does not mean that students are given free rein; it means that teachers must find that sweet spot between structure and choice that makes student learning possible. Designing multiple paths to a learning goal is especially important for students with learning disabilities, who are often much stronger in a few areas of intelligence than in other areas. By allowing options that accommodate different thinking patterns, teachers help all students not only achieve planned learning goals but also own these goals in a way that's all theirs.

Mrs. D identified clear learning goals for her 6th grade unit on Egypt. One goal, drawn from state standards, was to analyze the geographic, political, economic, religious, and social structures of early Egyptian civilizations. Students had latitude to pursue their own interests in fulfilling this goal. Three students presented their understanding of Egyptian civilizations through different formats that aligned with their interests and accommodated their learning differences. One student with information processing difficulties worked

within a small group to collect research on mummification; his role was to read aloud and discuss information with group members. Another student diagnosed with ADD worked on a content-relevant analytic exercise in the class library, free of distractions. And a student with Asperger's syndrome designed a computer-based interactive graphic of King Zoser's step pyramid that allowed the user to climb the pyramid, with text on each step highlighting the pyramid's importance.

Mining Subject-Area Expertise

Not only did these teachers know the landscape of their subject matter, but they also showed multiple ways to navigate it. Beyond possessing content knowledge, they understood how learners come to know that subject (see Shulman, 1986), where students might stumble, what pre-conceptions students might have, and how to match content with instructional method in a way that connects to different learning styles and levels.

To introduce a math unit on probability, Mr. P put the following warm-up problem (using names of students in the class) on the board:

It is a tie game between the L. A. Lakers and the Miami Heat in game 7 of the NBA finals. As the buzzer sounds, Kobe, who plays for the Lakers, fouls Shaq, a Heat team member, giving Shaq two free throws. Blake, Brooke, and Tommy all know that Shaq is a 50 percent free-throw shooter. Blake says, "I know the Lakers have a 50 percent chance of going to overtime because Shaq misses his shots 50 percent of the time." Brooke says, "I am certain the Heat will win because Shaq only needs to make 1 out of 2, and Shaq shoots 50 percent." Tommy says, "I think you're both wrong." Do you agree with Blake, Brooke, or Tommy? Explain your thinking in words, diagrams, or arithmetic.



Creating Caring Classrooms

These expert teachers created what Noddings has called a "caring classroom"—an environment that is safe, democratic, diverse, and inclusive (Noddings, 1984). Although it has received more attention recently, the affective component of differentiation has often been overlooked. Each of the teachers we studied considered the social and emotional aspects of the classroom environment essential to differentiation.

Rather than seeing differences in ability, culture, language, or interests as hurdles, these teachers turned differences into assets. They modeled respect for diversity. In their classrooms, students acknowledged and valued the unique attributes of peers.

Mrs. D's class was deeply engaged in a game of "Family Feud." Students worked in teams to answer questions about the ancient Kush Kingdom. Although all students had listened to the opera *Aida*, only a few had done independent research digging further into the opera, which was an optional part of the class project. Students on both teams looked to Jason, who had studied *Aida* in depth. In the audience, students encouraged their classmates to "Use a lifeline! Call Jason!" Identified as having Asperger's syndrome, Jason often worked on his own, exploring atypical topics. He rarely interacted socially. However, students in this class often eagerly sought help from Jason as an expert. In a classroom like Mrs. D's that values a diverse range of interests, Jason's unusual choice of study became an asset.

Tapping the Wisdom of the Experts

As more school districts support differentiation, expert teachers within our schools provide an invaluable resource

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Ten minutes later, Mr. P directed students to move to the corner of the room near the student their answer agreed with—Blake, Tommy, or Brooke. A class debate followed, in which students tried to convince others to take their position.

This exercise is a far cry from the sterile math problems at the start of the textbook's statistics chapter. Mr. P's combination of probability knowledge and developmental understanding enabled him to tweak standardized materials, transforming a dry problem into an engaging puzzle for his 8th grade students. In addition, he tapped different learning styles by urging his students to think through the problem in words, diagrams, or arithmetic. Mr. P encouraged his students to think in whatever way they find most natural, especially when learning a new concept.

for teacher learning. Observing how real teachers practice differentiation illuminates the complexity of addressing the needs of all students. We suggest two practical ways to integrate what we can learn from expert teachers into professional development.

■ *Mentoring relationships.* Pair a novice teacher with an expert teacher in the same subject area. Observations and joint lesson-planning sessions will give the novice opportunities to learn the nuanced ways in which expert teachers differentiate curriculum and instruction. In addition, we found that the expert teachers we studied struggled to articulate how differentiation plays out in their classrooms. A mentoring relationship gives expert teachers a chance to reflect on their knowledge and think about their practice with fresh insight.

■ *Opportunities to view examples of dif-*

ferentiation. To master a strategy as complex as differentiation, teachers need concrete examples and a common analytic vocabulary. Through observing video or digital tapes of good differentiation practice, teachers can zoom in on specific teacher actions and discuss the purposes behind those actions. Teachers should be organized into small, subject-specific groups and given targeted questions before watching the teaching clip.

Well-honed strategies for how to respond to each individual's abilities are often hidden behind the closed doors of expert teachers' classrooms. It's time to open these doors and see the dynamic and complex nature of differentiation in practice. **EL**

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